

REMARKS

I. Objections to Drawings and Specification:

FIGS. 9-10B have been objected to by the Examiner because they have not been labeled as "PRIOR ART." In response, amended drawings for FIGS. 9-10B labeled "PRIOR ART" are submitted herewith.

The specification has been objected to by the Examiner for containing grammatical errors. In response, typographical and grammatical errors have been corrected. The amendments to the specification are fully supported by the original specification. As such, no new matter has been added by the amendments to the specification. Accordingly, the Applicant respectfully submits that the objections to the specification be withdrawn.

The support for the new claims can be found, for example, in the drawings, such as FIG. 4(b). As such, no new matter has been added by this amendment.

Claims 1, 2, 4, 7, 9, 10, 12 and 18 have been amended to more particularly point out and distinctly claim certain aspects of Applicant's invention. New claims 21 and 22 have been added. The support for the amendment and new claims can be found, for example, in paragraphs 30 through 58 and in the drawings, such as FIG 4(b). As such, no new matter has been added by this amendment. Claims 8, 19 and 20 have been cancelled without prejudice. Reconsideration and allowance of all of the pending claims in view of the above amendments and the following remarks is respectfully requested.

Claims 12-17 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. In response, independent claim 12 has been amended to particularly point out and distinctly claim the subject matter of the invention. As such, the Applicant respectfully requests that the rejection under 35 U.S.C. 112 be withdrawn.

II. Rejections to Claims:

Pending claims have been rejected based principally on GB1289816 (the “Adamson reference”). In particular, claims 1, 7, 12, and 18 have been rejected by the Examiner as being anticipated by the Adamson reference pursuant to 35 U.S.C. § 102(b). Figure 3 of the Adamson reference shows an electric heater element 13 within a bit 11, which increases the overall diameter of the bit 11. As such, the bit 11 disclosed in the Adamson reference may be too large for use in a high density circuit. In contrast, Applicant’s claimed invention is generally directed to providing a slim shape electric heating device so that the heating device may be used for soldering in a high density circuit. This is accomplished, in part, by providing a heat generating member which includes a heater core of high heat conductive material and a heating coil wound around the heater core, the heater core being coupled to the tip such that the tip and core extend serially in the longitudinal direction, as shown in Figure 4B of the application. With the core extending serially from the tip, the protective pipe 38 and the tip 4a of the movable leg 3a are small in diameter. In this regard, the independent claims 1 and 7 recite, in part, that “the heater core being coupled with the tip such that the tip and the core extend serially in the longitudinal direction of the body.”

In addition, amended claims 2, 12, and 18 recite, in part, a sensor insulating pipe (reference number 53 shown in Figure 4B) located within the body between the heating coil and the temperature sensor along the longitudinal direction of the electric heating device to provide a predetermined distance between the heat generating member and the temperature sensor. The Adamson reference does not disclose or teach the sensor insulating pipe, as recited in amended claims 2, 12, and 18 as provided below:

Dependent claim 2 recites, in part, that “a sensor insulating pipe located within the body between the heating coil and the temperature sensor along the longitudinal direction of the electric heating device to make the heating coil and the temperature sensor distant from each other.”

Claim 12 recites, in part, that “a sensor insulating pipe for enclosing the lead wire along at least a portion thereof and located between the temperature sensor and the heat generating member along the longitudinal direction of the electric heating device.”

Claim 18 recites, in part, “means for protecting said means for transferring between said heat generating member and said means for sensing temperature.”

None of the secondary references teach or suggest the heater core being coupled to the tip such that the tip and core extend serially in the longitudinal direction or the sensor insulating pipe. For instance, the GB1507033 reference discloses a heater including a heating coil 10 wound around a bit 7. P. 2, lns. 6-7. U.S. Patent No. 3,654,427 patent (the “’427 Patent”) discloses leads 51A and 46A being exposed to the outside body of an electric heating soldering tool. Col. 5, ln. 43-48. The ‘427 Patent further discloses a heating coil 19 wound around a tip 1. *See* Fig. 1 of the ‘427 patent. U.S. Patent No. 4,182,948 is directed an electrical heating element with a nickel plated terminal pin 12. Col. 1, lns. 64-66.

With regard to dependent claims 10 and 11, the office action rejected these two claims as being obvious in light of the Adamson reference in view of U.S. Patent No. 6,235,027 (the “Herzon patent”) and further in view of U.S. Patent No. 6,235,027 (the “Idsund patent”). The Idsund patent is directed toward tweezers for tick removal. The Herzon patent is directed to cautery surgical forceps for the cauterization of veins and blood vessels. The Adamson, Herzon, and Idsund references either alone or in combination, however, do not teach or suggest the heater core being coupled to the tip such that the tip and core extend serially in the longitudinal direction or the sensor insulating pipe.


For the reasons mentioned above, the Applicant respectfully submits that amended independent claims 1, 7, 12 and 18, and their respective dependent claims are allowable over the cited references.

In view of the foregoing, it is respectfully submitted that the claims in the application patentably distinguish over the cited and applied references and are in condition for allowance. Reexamination and reconsideration of the application, as amended, are respectfully requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is respectfully requested to call Applicant's undersigned representative at (213) 689-5148 to discuss the steps necessary for placing the application in condition for allowance.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 07-1853. Should such additional fees be associated with an extension of time, applicant respectfully requests that this paper be considered a petition therefor.

Respectfully submitted,


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